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## **Do Warning Labels on Alcoholic Beverages Deter Alcohol Abuse?**

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Most educators would probably agree that drinking, even problem drinking, represents a complex social issue fraught with cultural mores, opinions, and values. To solve serious social problems such as substance abuse, oftentimes simplistic solutions that introduce programs are initiated, regardless of their effectiveness.<sup>(1)</sup> New federal legislation now mandates that warning labels which identify the possible health consequences of drinking be placed on alcoholic beverage containers. Testimony presented to the U.S. Congress to support passage of this new law suggests these warning labels will help decrease alcohol abuse and alcoholism. Proponents contend consumers will read the label and be less likely to drink abusively.<sup>(2,3)</sup>

Are the warning labels a symbolic gesture in support of alcohol abuse prevention and education, or are they an effective public health technique or adjunct to other alcohol education programs? These two important questions will be examined by reviewing research on health warning labels, examining educational programs in other health areas, and discussing implications from the Health Belief Model.

### **DO WARNING LABELS OR NOTICES CONTRIBUTE TO BEHAVIOR CHANGE?**

Messages received from warning labels may or may not increase consumers' awareness of a health risk or influence their behavior to reduce the risk. In many cases, the effectiveness of the label cannot be differentiated from concurrent educational programs. McCarthy et al (4) reviewed more than 400 articles concerning warning labels on products such as seat belts, health products, and household chemicals and concluded on-product warning had no measurable impact on user behavior or product safety. Other studies, however, have found positive effects.

Since 1975, packaged processed foods were required by law to bear a nutrition label if a nutrition claim was made for the product or if it was fortified with additional nutrients.(5) One study (6) indicated that after diet sodas were required to carry a warning that saccharin causes cancer in animals, soft drink sales slowed but continued to increase.

In 1982, the FDA asked food manufacturers to voluntarily label the sodium content of their products. In a study tracking the public's awareness of the dangers of sodium, Heimbach' found public concern about high sodium intake increased as increases in sodium labeling on products occurred. However, he was unable to differentiate the impact of labeling from the impact of media and public health high blood pressure education programs. Another study indicated "shelf labeling" of food products deemed low or reduced in sodium, calories, fat, or cholesterol resulted in increased sales compared to those without the information. However, other media campaigns during the study period could have influenced the results.(8)

Due to conflicting findings, investigators are unable to determine whether or not consumers even read health and safety warnings. And even if a warning is read, the caution may not be followed and the warning may not be read again. In one study in which students were asked to wear safety goggles while hammering a nail, students neglected to wear the goggles despite a warning label on the hammer and the presence of goggles near the hammer.(9) Teachers are aware of many students and adults who, after a few days, do not notice a health or safety message posted on a bulletin board. When traffic safety notices are given such as, "buckle your seatbelt: it's the law," how frequently do unbuckled drivers read the sign and then buckle up? Regardless of state law or seat belt warning signals,(4) less than 15% of all drivers use seat belts. How many drivers speeding faster than 65 miles per hour slow down when they see a freeway speed limit sign?

Conversely, studies of prescription inserts to inform consumers of the dangers and proper use of a drug, a practice that may be more analogous to alcohol warning labels, find that most patients read the information provided with the prescription and show an increased knowledge about the side effects and the dangers.(10,12) In 1971, the U.S. Food and Drug Administration required patient package inserts in oral contraceptives, and in 1977 the agency required them for many other drugs. Morris (11) found sales of a particular brand of estrogen dropped sharply after media reports were broadcast linking estrogens to cancer. Sales declines continued following the mandatory insertion of information sheets a few years later. However, other researchers acknowledges people may read the warning inserts but suggests there is no effect on the degree of compliance with the drug-taking regime, reporting side effects to their physicians, or deciding 'not to consume the drug compared.

Perhaps most analogous to alcohol warning labels is the mandating of cigarette warning labels, public policy which also was mandated through legislation. However, research concerning the effectiveness of the policy has failed to clearly measure the contribution of the labels in decreasing per capita cigarette consumption.

Comprehensive anti-smoking education programs and policies began in 1964 with publication of the U.S. Surgeon General's report concerning the health consequences of smoking.(5) Cigarette warning labels were first placed on cigarette packages in 1965; however, consumption still rose. After public education media campaigns began in 1968, a decrease in smoking occurred. In 1971, cigarette manufacturers disclosed the tar and nicotine content of cigarettes in all advertisements and, at the same time, public anti-cigarette campaigns and cigarette commercials were removed from television.

Tobacco consumption continued to rise and peaked in 1979. Since then, a steady decrease in smoking has occurred.

In 1981, a Federal Trade Commission report (13) concluded warning labels are rarely noticed and not effective in warning consumers of the health hazards of smoking. The FTC found only about 2.4% of adults exposed to a set of tested cigarette ads even read the warnings. The Commission suggested rotating messages and changing the shape of the message display in an attempt to get more people to read them. In 1985, after a continuous six-year decline in per capita smoking, new policy that requires rotating warning labels on packages and advertisements was mandated.

Interestingly, alcohol label legislation was passed almost a decade after per capita consumption reached a peak and has since been declining among adults (14) and some youthful (15) segments of society. Could these efforts be symbolic gestures on the part of the public "to do something" to support the continued reinforcement of an already declining problem?

Have warning labels effectively contributed to the decrease in per- capita consumption of cigarettes? Several studies have attempted to answer this question ever since the public policy was mandated. Richardson et al (6) reviewed cigarette warning label research and concluded most studies were not able to measure the impact of warning labels or other public health education programs.

A summation of various reports appears to imply that media publicity, public education, changes in public attitude, anti-smoking commercials, and the release of the U.S. Surgeon General's report were primary factors in contributing to the decrease in smoking in the United States. Warning labels do not appear as effective.

McCarthy et al (4) concluded warning labels on products, even in combination with intensive educational and multi-media campaigns, have failed to demonstrate a positive impact on improved health and safety. Furthermore, they concluded the labeling technique is ineffective and a misallocation of resources.

## **HOW EFFECTIVE IS PRESENTING INFORMATION IN CHANGING A HEALTH BEHAVIOR?**

Regardless of what educational model is used, health educators generally acknowledge the difficulty in changing health behavior among youth and adults. In an attempt to design more effective public health education programs, health educators have been researching and testing the principles of the Health Belief Model. (16) One conclusion from this body of knowledge, (17-21) explained in the simplest terms, contends that telling someone a behavior is harmful or giving information about the risks of a behavior is not sufficient to affect the person's actions. In addition, increasing a person's knowledge about a health risk or problem does not necessarily cause the person to change negative or risky behavior.

Changing a person's health behavior is a difficult and complex process. According to the Health Belief Model, to change behavior individuals must: 1) feel personally susceptible to the health problem, 2) feel the problem can cause them serious harm, and 3) know what actions can be taken to avoid the harm, and know the cost or benefits of the actions. If the costs outweigh the benefits, the action to avoid a health risk is unlikely to be taken.

The first steps of the Health Belief Model, that of conveying personal susceptibility and harm, are particularly difficult with young people. According to Vinal et al (21) youth often engage in magical thinking, perceiving themselves as immortal and that illness, accidents, and negative events only happen to others. Findings of studies with youth, particularly in the area of drugs or sexuality, have shown minimal effectiveness in changing behavior even when the focus concerned information of risks or serious harm resulting from the behavior among high-risk groups.

A recent study by Brandt (22) indicated that despite educational messages regarding high-risk behavior with high-risk students concerning AIDS, many of these individuals still did not perceive themselves as being at risk. Kirby (23) reviewed nearly 50 sex education research papers and concluded sex education can increase knowledge in both high school and college youth and may change attitudes and tolerance to alternative lifestyles, but in general had little effect on sex-related behavior. He later reported (20) that increased knowledge about sex- uality, pregnancy, and birth control did not necessarily increase perceptions of the risk or reduce risk-taking behavior. However, one study (24) found that older sexually active girls who had a sexuality education course were significantly more likely to use an effective contraceptive method. Another study (23) also found change in behavior among inner city clients at public health clinics in terms of "safe sex" after educational interventions which used the principles of the Health Belief Model.

In the area of alcohol and other drug education, Goodstadt's (26) review of programs aimed at college students reported a frequent impact on increased knowledge, but only minimal behavior change. Hanson (21) reviewed the effectiveness of more than 100 alcohol and drug education programs at all grade levels. Education, he concluded, changed knowledge, and in many cases attitudes, but did little to change substance use or abuse behavior. Hastings et al (28) after studying people's knowledge and feelings concerning AIDS and its transmission, found that some individuals at high risk, though they knew AIDS was transmitted by IV drug use, continued to inject drugs despite their knowledge and fear of AIDS.

Lack of effectiveness in changing health behavior based on the Health Belief Model also is found among adults. A recent article concerning use of the Health Belief Model to keep alcoholic patients in treatment reported by Rees (29) found that, though alcoholic individuals increased their knowledge and changed their beliefs as to the importance of staying in a treatment program, there was no difference between these alcoholics and the control group on the percent who chose to stay in treatment. He concluded that other complex social and cultural factors, in addition to knowledge and the change of beliefs, are important in changing any behavior.

Are alcohol warning labels likely to convince people at risk they should not drink when many tested educational programs indicate few changes in risky sex and drug taking behaviors? Some might argue that because of the "sex drive" variable, one cannot compare decisions about sexual activity with decisions about drinking. In addition to variables common to youthful alcohol and drug use and sexual activity such as peer pressure, feeling like they are adults, rebellion, rite of passage, and a dysfunctional home environment, youth may continue to have high-risk sex because it is a basic drive and not because they do not believe messages or do not have the knowledge about being at risk for pregnancy, AIDS, or other sexually transmitted diseases. Likewise, individuals using alcohol and other drugs might already be addicted. Addiction, which in some cases can be more powerful than the sex drive, may cause these individuals to continue to engage in risky and illegal alcohol and drug-taking behavior though they know it might be harmful, or even lethal, for them.

When viewed in the context of providing information in conjunction with the Health Belief Model, does the warning label show how a person is personally susceptible to the harm mentioned or does it outline positive alternatives in which benefits outweigh the costs? Will individuals "at risk" even perceive themselves at risk? For people already addicted, is a warning label likely to convince them not to drink?

## **CONCLUSIONS**

Addressing the issue of warning labels as an effective educational technique to reduce alcohol abuse, has yielded few answers and several questions. In many cases, reports concerning health and safety warning labels, health education programs, and implications from the Health Belief Model have presented conflicting results or marginal effectiveness. Some investigators reported they could not differentiate the effect of health warning labels from co-existing community educational programs. Other researchers concluded warning labels were a misallocation of educational efforts.

Based on these reports, are alcohol warning labels, on their own or supported by existing school, media, and other public health education programs, likely to help prevent alcohol abuse in any population group? Do people read them? If so, and if they are "at risk," will they change their behavior? If not, could this effort be a misallocation of resources or even create a false sense of security that something is being done to thwart alcohol abuse? Can such legislated public policy

begin to solve complex social problems, or is this policy primarily a symbolic effort in support of reducing alcohol abuse in the country?

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